though any network can be employed if it is a network used for quality non-assurance packet communications like the Internet.

The voice communications device 11 serving as the sending side includes a microphone 13 and a voice encoder 14.

Herein, the voice encoder 14 functions to encode (irreversibly compress and encode) voice data to be gathered and sent from the microphone 13 so as to send the voice data to the Internet 15, thereafter divide encoded voice data for each fixed-encoding-unit-time and contain the data in a voice packet PI, and sequentially send it to the Internet 15.

In the irreversible compression method, there is the possibility that data loss (for example, loss at the bit level) will occur. By this compression, data storage is reduced to, for example, about one several tenth to one several hundredth (in the lossless compression method, it is reduced to, for example, about one second to one ninth). The voice data is to be finally perceived by the auditory organs of a person, such as a user of the packet communications device 12. Therefore, even if the data is not strictly reconstructed into the original state in which it is not compressed, and even if a part of the data is lost, there is no problem if it is in an allowable limit. Therefore, for example, from viewpoint of the improvement in the real-time responsiveness of communication, it is

advantageous to reduce the data size by high compressibility and carry out irreversible compression that is convenient for improving substantial transmission efficiency rather than to seek accuracy of the data obtained by decompression.

The encoding unit time ET of the voice encoder 14 is usually caused to coincide with the decoding unit time DT of a voice decoder 17 described later. For example, concerning the decoding unit time DT, DT=10 milliseconds in G .729 of ITU-T standards, and DT=30 milliseconds in G.723.1. Generally, the encoding unit time ET is caused to coincide with either of the two.

In this embodiment, DT=10 milliseconds. In this case, the length of the voice packet PI can be regarded as being substantially 10 milliseconds.

The voice communications device 12 that receives time-series voice packets PI, which the voice communications device 11 has sent, through the Internet 15 includes a fluctuation absorbing buffer device 16 (hereinafter referred to simply as "buffer device" 16), the voice decoder 17, a speaker 18, a complementary-packet inserting device 19, a packet deleting device 20, and a voice presence/absence judging device 21.

The buffer device 16 among these elements chiefly comprises a buffer memory 32 that functions to absorb a transmission differential delay (transmission delay fluctuation, i.e., jitter) of voice packets PI generated on

the Internet 15. An example of its structure is shown in Fig. 2.

(A-1-1) Internal structure of the fluctuation-absorbing buffer device

In Fig. 2, the buffer device 16 includes a queue length detector 30, a scanning reader 31, and the buffer memory 32.

The buffer memory 32 basically functions as a FIFO memory (first-in first-out type memory). Time-series voice packets PI that have been received from the Internet 15 are written to the buffer memory 32 in the order of receipt, and are read from the buffer memory 32 in the order of writing. The voice packets PI that have been read out are supplied to the voice decoder 17 as voice packets PO.

The reading is always repeatedly carried out at intervals of the fixed decoding unit time, whereas the writing is influenced by packet loss, jitter, etc., on the Internet 15 and does not necessarily assure that it will be carried out at intervals of fixed time. That is because the frequency or level of loss or jitter changes hourly depending on, for example, a change in the traffic of Internet 15.

Among the sequences of the received voice packets PI, the voice packet written initially to the buffer memory 32 in a state of Fig. 2 is a voice packet P1, the voice packet written secondly is a voice packet P2, the voice packet written thirdly is a voice packet P3, the voice packet